

WHAT IS CLAIMED:

1. A method for determining the configuration of locomotives in a wired distributed power train comprising:
  - determining consists of adjacent locomotives in the train;
  - determining one or more sub-consists of adjacent locomotives which are controlled separately from a preceding adjacent locomotive within the consist;
  - determining which locomotives have an available wired distributed power controller;
  - assigning a common consist indicator to all adjacent locomotives of a consist if the consist has at least one available wired distributed power controller; and
  - assigning a common sub-consist indicator to all locomotives of a sub-consist if the sub-consist has at least one available wired distributed power controller.
2. The method according to Claim 1, wherein determining a consist includes determining the position of cars and locomotives in the train.
3. The method according to Claim 2, wherein the consist indicator is sequentially assigned based on position in the train.
4. The method according to Claim 3, wherein the sub-consist indicator is sequentially assigned based on position in the consist.
5. The method according to Claim 2, wherein the sub-consist indicator is sequentially assigned based on position in the consist.
6. The method according to Claim 2, wherein the position in the train is determined automatically by determining the sequence of nodes connected to a wire network.
7. The method according to Claim 2, wherein consists are determined from the positions of one locomotive or more than one adjacent locomotives separated by the position of at least one car.
8. The method according to Claim 7, wherein sub-consists are determined from the position of one locomotive not controlled by a preceding adjacent locomotive.

9. The method according to Claim 2, wherein sub-consists are determined from the position of one locomotive not controlled by a preceding adjacent locomotive.

10. The method according to Claim 9, wherein a locomotive not controlled by a preceding adjacent locomotive is determined by comparing locomotive compatibility of adjacent locomotives.

11. The method according to Claim 2, including determining a first orientation of the locomotives as part of the step of determining the position of the cars and locomotives in the train.

12. The method according to Claim 11, wherein a second orientation of the locomotives are reported by the locomotives; and the first and second orientations for each locomotive are compared and difference in orientations are flagged.

13. The method according to Claim 12, if a second orientation is not reported it is flagged.

14. The method according to Claim 2, including displaying locomotive information including consist and sub-consist indicators in order of their position in the train.

15. The method according to Claim 14, displaying locomotive information in numerical order of identification number of the locomotive if the position of the locomotives cannot be determined.

16. The method according to Claim 1, including determining a first orientation of the locomotives; a second orientation of the locomotives are reported by the locomotives; and the first and second orientations for each locomotive are compared and difference in orientations are flagged.

17. The method according to Claim 16, if a second orientation is not reported it is flagged.

18. The method according to Claim 1, wherein a locomotive not controlled by a preceding adjacent locomotive is determined by comparing locomotive compatibility of adjacent locomotives.

19. The method according to Claim 1, including setting a first available distributed power controller in a sub-consist as the controlling controller of the sub-consist and setting other available distributed power controller in a sub-consist as the controlled controllers.

20. The method according to Claim 1, wherein identification number of the locomotives is reported; wired distributed power capability of the locomotive as a function of its identification number is determined and compared to wired distributed power availability; and differences are flagged.

21. The method according to Claim 1, including preventing independent wired distributed power control of less than all sub-consists in a consist in response to an independent control request.